<u>REMARKS</u>

This application has been carefully reviewed in light of the Office Action dated April 6, 2004. Claims 1 to 18 and 20 to 31 are pending in the application. Claims 1, 2 and 13 have been amended. Claim 1 is the sole independent claim. Reconsideration and further examination are respectfully requested.

Applicant thanks the Examiner for the indication that Claims 4, 8, 26 and 30 would be allowable if rewritten in independent form, including all of the limitations of the base claims. Applicant has chosen not to rewrite these claims at this time since the base claim for each of Claims 4, 8, 26 and 30 is believed to be allowable for at least the reasons set forth below.

Objections were lodged against Figs. 6a and 6b, for alleged inconsistencies between step S613 of Fig. 6a and page 21, lines 24 to 26 of the specification, and between step S627 of Fig. 6b and page 23, lines 23 to 25 of the specification. The Replacement Drawing Sheets attached hereto, together with corresponding amendments to the specification, are believed to attend to such objections. In particular, the replacement drawings separate each of steps S613 and S627 into two steps that sequentially increment "i" and then compare the incremented index.

In addition to these drawing objections, it was also said that step S623 of Fig. 6b contains an expression "function()" that is not found in the specification. In response, Applicant respectfully directs attention to page 23, line 11 of the specification, which describes an exemplary function which is seen to correspond to the expression "function()" in step S623 of Fig. 6b. Reconsideration and withdrawal of this objection are therefore respectfully requested.

- 15 -

Claims 13 and 29 were rejected under 35 U.S.C. § 112, second paragraph, for alleged indefiniteness. In response, Claim 13 has been amended. Reconsideration and withdrawal of this objection are respectfully requested.

Claims 1 to 3, 5 to 7 and 9 were rejected under 35 U.S.C. § 102(b) over "Extracting Multi-Dimensional Signal Features for Content-Based Visual Query" (Chang); Claims 11, 12, 14, 25 and 27 to 29 were rejected under 35 U.S.C. § 103(a) over Chang in view of "Quad-Tree Segmentation for Texture-Based Image Query" (Smith I); Claim 13 was rejected under 35 U.S.C. § 103(a) over Chang in view of Smith I and further in view of "Pictorial Query Specification and Processing" (Folkers); and Claims 15 and 16 were rejected under 35 U.S.C. § 103(a) over Chang in view of Smith I and further in view of "Integrated Spatial and Feature Image Systems: Retrieval Analysis and Compression" (Smith II). Reconsideration and withdrawal of these rejections are respectfully requested.

The present invention generally concerns indexing a digital image comprising a plurality of blocks. A first information item is generated which is characteristic of the visual content of the image. A second information item is generated which is indicative of a degree of significance of the visual content of at least one of the plurality of blocks with respect to the overall content of the image, and which is thereby characteristic of the spatial distribution of the visual content of the image in its image plane. In addition, an index is associated with the image which is composed of the first information item and the second information item.

One feature of the present invention therefore lies in generating a second information item indicative of a degree of significance of the visual content of at least one of the plurality of blocks with respect to the overall content of the image. By virtue of this

- 16 -

feature, the second information item is characteristic of the spatial distribution of the visual

content of the image in its image plane, thus increasing the accuracy of the index and the

accuracy of a search using such an index.

Referring specifically to the claims, independent Claim 1 as amended

defines the invention in terms of a method.

The applied art is not seen to disclose or to suggest the features of the

invention of the subject application. In particular, the applied art is not seen to disclose or

suggest at least the feature of generating a second information item indicative of a degree of

significance of the visual content of at least one of the plurality of blocks with respect to

the overall content of the image.

As understood by Applicant, Chang describes a visual information system

(VIS) for indexing, accessing and manipulating images based on visual content. Chang

automatically extracts low-level visual features of an image, such as texture, color and

shape. In addition, Chang discusses deriving visual features directly from the compressed

domain, such as DCT and wavelet transform domain. See Chang, Abstract. In evaluating

the suitability of different compression algorithms, Chang compares different compression

algorithms based on the effectiveness of texture discrimination. Figure 3 of Chang

illustrates that the wavelet transform has a higher classification rate compared to a uniform

subband and the DCT/Mandala transform. See Chang, page 4, paragraph 3.

Although Chang describes a VIS for indexing and accessing of visual

information by automatic extraction of low-level features such as texture, it is not seen to

disclose or suggest generating second information item indicative of a degree of

significance of the visual content of at least one of a plurality of blocks with respect to the overall content of the image.

In its rejection of Claim 3, the Office Action cited to the wavelet transform decomposition of Chang, contending that low frequency subbands within Chang are visually significant. Without conceding the correctness of this contention, Chang is still not seen to address the degree of significance of the visual content of at least one block of the image with respect to the overall content of the image. Moreover, Chang is not seen to teach that such degree of significance is generated as second information, with first information being characteristic of the visual content of the image. Chang is also not seen to suggest the attendant benefits that such second information would provide, such as increased accuracy of the index and searching of the index, since the second information is characteristic of the spatial distribution of the visual content of the image in its image plane.

In addition, Smith I, Smith II and Folkers have been reviewed and are not seen to compensate for the deficiencies of Chang.

Accordingly, based on the foregoing amendments and remarks, independent Claim 1 as amended is believed to be allowable over the applied references.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

Michael K. O'Neill
Attorney for Applicant
Registration No.: 32,622

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

CA_MAIN 87068v1